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The TIMBER INDUSTRIES of MARYLAND

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by James T. Bones and John E. Brodie

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6816 MARKET STREET, UPPER DARBY, PA. 19082

THE AUTHORS

JAMES T. BONES, Research Forester, received his bachelor's degree in soil conservation from Utah State University in 1952, and his master's degree in forest management from the same university in 1956. He worked at the Pacific Northwest Forest and Range Experiment Station and the Institute of Northern Forestry until 1965, when he became a United Nations Forestry advisor to the government of Colombia in South America. After his return in March 1968, he transferred to the Northeastern Forest Experiment Station. He is now stationed in Upper Darby, Pa., where he is working in the timber-removals phase of forest resources evaluation.

JOHN E. BRODIE, Forest Products Utilization Specialist for the Maryland Forest Service, received his bachelor's degree in forest management from the University of West Virginia in 1962. His first duties with the Maryland Forest Service included strip-mine rehabilitation and other forest management tasks at the Service's regional headquarters in LaVale, Maryland. In 1964, he began to work in the forest products utilization field, assisting local wood users in western Maryland. In 1972, he transferred to the Maryland Forest Service headquarters in Annapolis, where he is in charge of forest products utilization programs throughout the State.

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Cover Photo

Currently in Maryland the trend is to harvest the entire bole and transport it to a product breakdown point before primary manufacture. The cover photo shows a Dorchester County hardwood operation that stresses maximum grade and product recovery by channeling each segment of the tree stem to the best possible use. The current product mix includes factory lumber, ties, timbers, pallet stock, and pulp chips.

The TIMBER INDUSTRIES of MARYLAND

ABSTRACT

A periodic evaluation of statewide industrial timber output based upon a complete survey of the primary wood manufacturing plants in Maryland. Contains statistics about industrial timber production and receipts in 1975 and the production and disposition of the manufacturing residues that resulted. The 43 million cubic feet of industrial wood produced in 1975 represented a 25 percent production decline since 1963 when the previous survey was made. Pulpwood and veneer log production, however, increased between 1963 and 1975. Other trends in industrial product output and manufacturing residue use are presented along with 20 statistical tables.

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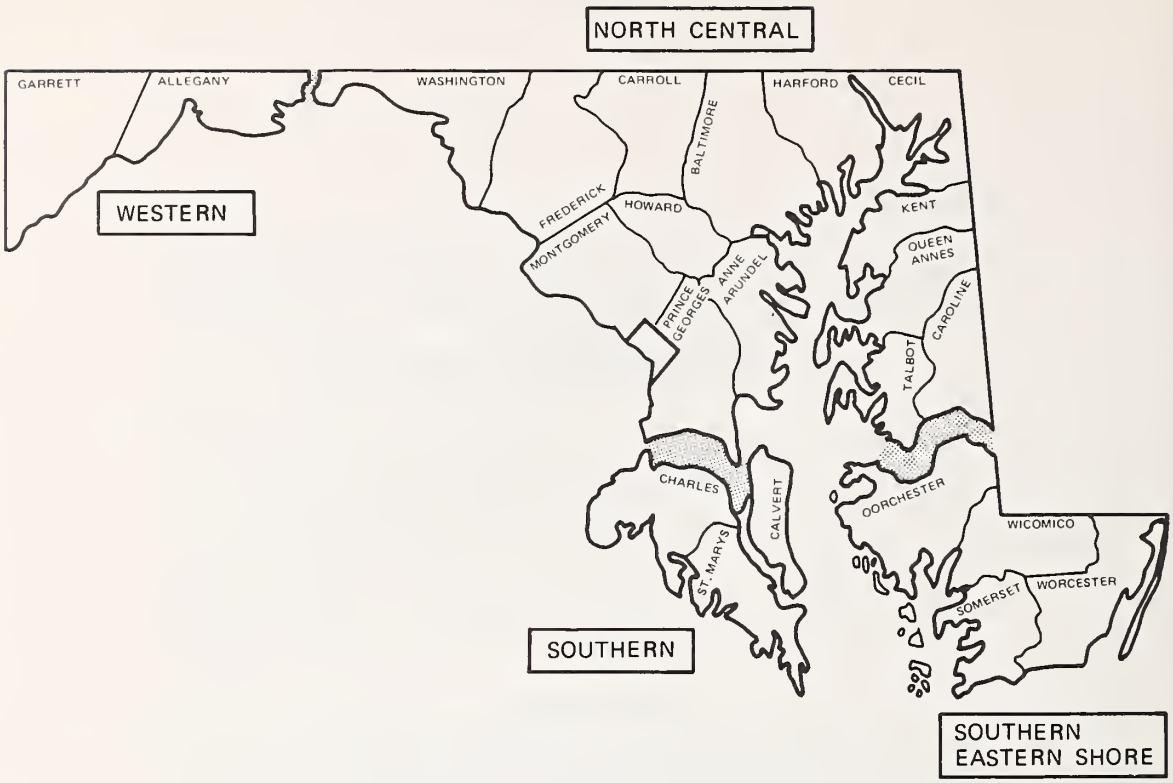
The geographic units in Maryland.



Round timber conversions for major products:

Softwood logs: M bd ft (Int. 1/4-inch) = 167.9 ft^3 = 4.76 m^3
Hardwood logs: M bd ft (Int. 1/4-inch) = 151.0 ft^3 = 4.28 m^3
Pulpwood: 1 Standard cord = 85 ft^3 =2.41 m^3

HIGHLIGHTS

THE 1975 timber industry survey in Maryland showed that since 1963:

- Total timber output has decreased 25 percent to 42.6 million cubic feet.
- Sawlog production has declined 36 percent to 153 million board feet.
- Pulpwood production has increased 27 percent to 165 thousand cords.
- Veneer log production has increased 42 percent to 22 million board feet.

BACKGROUND

The Forest Service of the U.S. Department of Agriculture conducts continuing forest surveys of all states to provide up-to-date information about the timber and other related resources of the Nation. In the 14-state region served by the Northeastern Forest Experiment Station, all states have been surveyed at least twice. Maryland has now been inventoried for the third time. The latest survey included a timber industry survey to determine the output of timber products and the volume and disposition of primary wood-product manufacturing residues.

This report is the result of a 100 percent canvass of all primary wood-product manufacturers that were operating in Maryland in 1975. Pulpwood production data were gathered as part of the Station's annual survey of pulpwood producers in the Northeast. As part of the licensing procedure for timber operators in the state of Maryland in 1976, operators were asked to furnish information about their 1975 round timber output. This information was compiled and merged with data from other ongoing surveys. The authors thank the Maryland timber operators for their excellent cooperation and the personnel of the Maryland Forest Service who assisted during the survey.

This report deals for the most part with statistics for two years: 1975, the calendar year of the current timber industry survey; and 1963, the calendar year of the previous complete canvass. The reader is reminded that these years may or may not be representative for the various Maryland timber industries covered in this report. When documented production statistics were available for individual timber products for previous or intervening years, they were included for comparison.

Long-term production trends may be indicated by repeated surveys in the future. Until a data base is built up over time, the reader is cautioned to use the current statistics prudently.

CURRENT INDUSTRY TRENDS

Maryland is fortunate to have such a wide variety of product alternatives for its timber. The softwood resource—mostly southern pine—can be used for poles and piling, or converted into lumber, plywood, or wood pulp. The hardwood resource can be used for cooperage logs, veneer logs, and handle stock, or converted into lumber and wood pulp. The most pressing problems confronting the forest industry interests of the state relate to improving the recovery and utilization of the existing timber resources and providing for future industrial expansion. Single-product harvesting operations, which typically leave large quantities of logging residues behind, can no longer be tolerated; both for financial and for aesthetic and environmental reasons.

Wood fiber that is left at the logging site actually has a negative value because it must be treated before the area can be regenerated. The same material at a concentration yard or mill site can be utilized, even if it is only suitable for firewood or boiler fuel. As the energy crisis continues and new technology is developed, the forests will be used to a greater extent as an energy source.

On the Eastern Shore of Maryland, tree-length logging of pine has increased the amount of wood that is removed and utilized. Multiproduct logging in hardwood stands has also increased the product recovery. Total-tree harvesters are operating in several parts of the State. These machines are capable of increasing per acre yields by 50 to 100 percent over conventional harvesting, by chipping tree tops and rough, dead, and small-diameter trees that

would be left behind in conventional logging operations. In addition to local pulpmills, new markets are being located for these chips. The chips are currently being used at an experimental waste treatment plant near Beltsville, Maryland, to provide aeration during the composting process. These chips should also be suitable as metallurgical wood or charcoal.

Primary manufacturing plants are striving to raise production levels and at the same time lower unit production costs. But these improvements require large capital outlays for the latest automated production equipment. Large edgers that employ a greater number of saws with narrower saw kerfs are being installed in Maryland sawmills. Scragg mills are being employed to process small sawlogs more efficiently. In many cases, headsaws are being used to square two sides of the logs only, before they are passed to a system of edgers for final breakdown into lumber, dimension, and cants.

The average sawmill operator in Maryland is becoming increasingly conscious that the product he produces must be well manufactured and that he must maximize the product recovery from each sawlog he processes. Growing demand for bark, sawdust, and chipped residues has allowed him to supplement his normal income.

INDUSTRIAL TIMBER HARVEST

Forest industries used over 42 million cubic feet of timber from the forests of Maryland in 1975. Almost 58 percent of this volume was from hardwood trees. Sawlogs were the major timber product, accounting for slightly more than 55 percent of the total harvest in Maryland. Pulpwood production ranked second in volume, accounting for 33 percent of the total. Other timber products that made up a minor portion of the harvest were veneer and cooperage logs, piling, poles, posts, mine timbers, and handle stock.

Overall, the timber harvest in Maryland has decreased 25 percent since the last industry survey was made in 1963, and 19 percent since 1952. Even though the production of most products declined between 1963 and 1975, two products showed substantial increases: the harvest of veneer logs and pulpwood increased 42 and 27 percent respectively.

These production gains were due entirely to an increase in the use of softwoods for pulpwood and veneer. The softwood harvest for pulpwood increased from 5.8 million cubic feet in 1963 to 8.8 million cubic feet in 1975 and the softwood veneer-log harvest increased from 200,000 cubic feet to 2.8 million cubic feet. The veneer log production was stimulated by the establishment of a softwood plywood plant on Maryland's eastern shore in 1967. This plywood plant is the only one using softwoods in the Northeast.

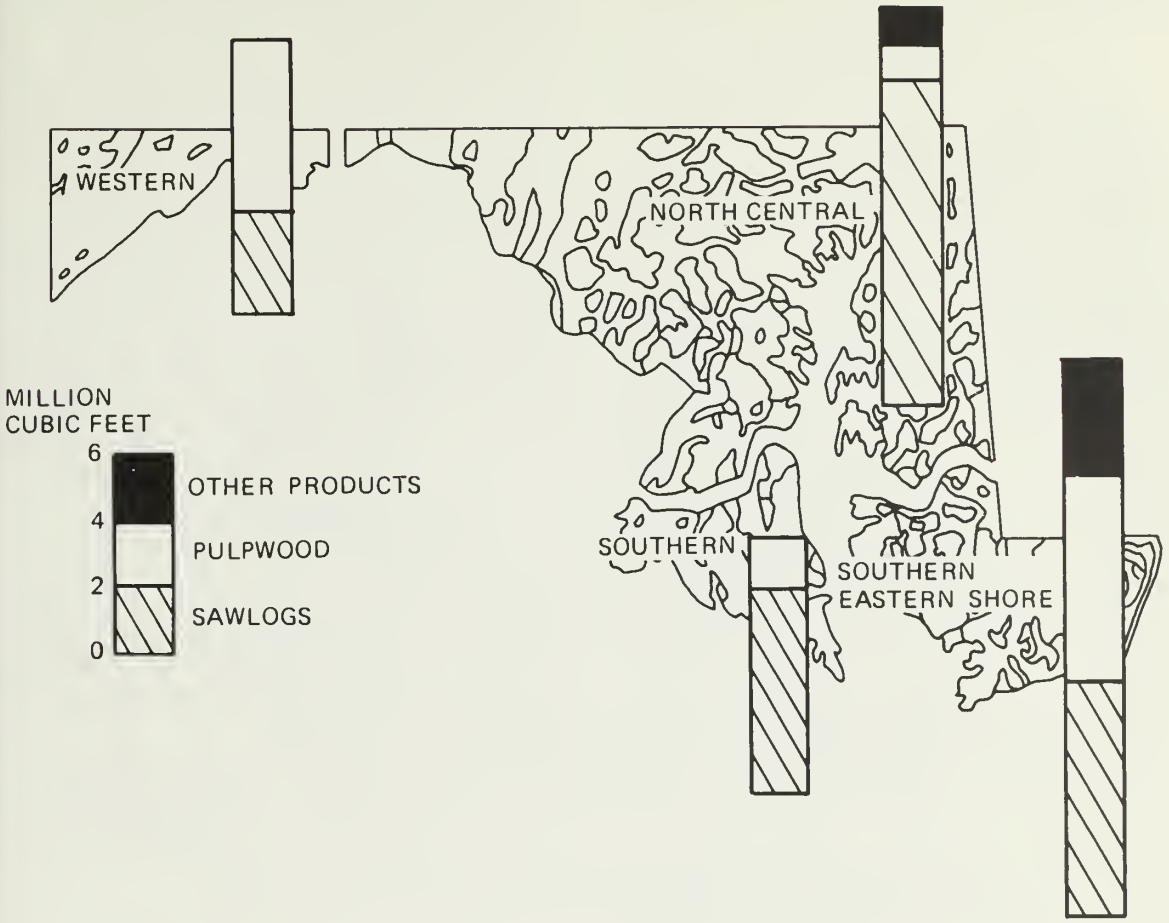
In 1975, most of the industrial timber harvest came from eastern Maryland (Fig. 1). The 17 million cubic-foot harvest from the South Eastern Shore Unit represented 39 percent of the state total. Although the North Central Unit ranked second in volume harvested—11 million cubic feet—a greater volume of sawlogs was harvested from this unit than from any of the other units. The Western Unit had the largest pulpwood harvest from hardwoods; the 4.6 million cubic feet of pulpwood production was 89 percent of the hardwood total for Maryland. Charles County, in the Southern Unit, was the state's largest hardwood sawlog producer in 1975 (18.1 million board feet); Worcester County produced the largest volume of softwood sawlogs (11.5 million board feet).

LUMBER AND SAWLOGS

Maryland has never been a nationally prominent lumber producer, but lumber has always been a major product of the primary wood manufacturers. Since lumber production statistics were compiled in 1869 (Steer 1948), lumber production in Maryland has averaged more than 100 million board feet (Fig. 2). Production low points were recorded in 1917 (68 million board feet); 1928 (69 million board feet), and 1933 (80 million board feet). Peaks of lumber production were reached in 1909 when 268 million board feet were produced and in 1952 when 238 million board feet were produced. Since 1952 the trend of lumber production has been generally downward. On the basis of sawlog receipts, we estimate that 156 million board feet of lumber was produced in 1975.

The species distribution of lumber produced for several selected years shows (in million board feet) that loblolly pine and oaks have been

Figure 1.—Harvest of industrial timber in Maryland, by units and major products, 1975.



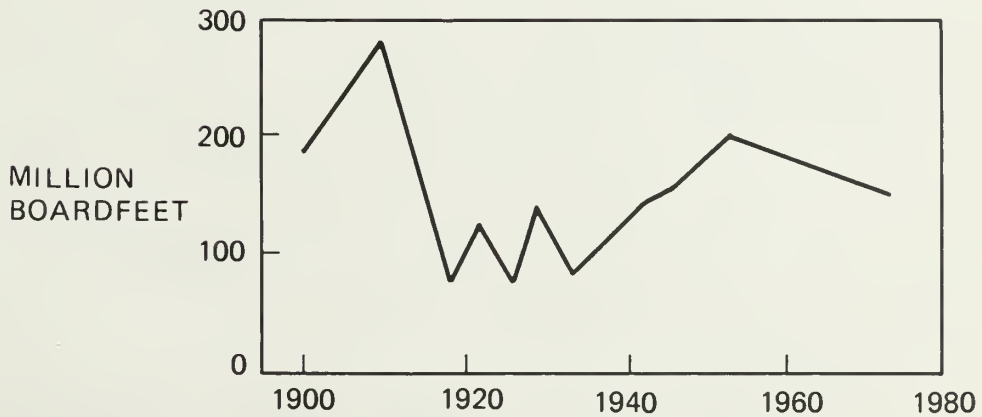


Figure 2.—Lumber production in Maryland for selected years.

the main species manufactured into lumber in the last century:

	1869	*1909*	*1916*	*1945*	*1975*
Yellow pines	40	98	29	72	31
Other softwoods	8	33	3	1	5
Oaks	40	72	17	24	59
Other hardwoods	8	65	20	19	61
Totals	96	268	69	116	156

In the early part of the century more than half of the Maryland-grown timber that was used by local wood-using industries was yellow pine and most of it was used in packing case and box construction. As the container industry began to use materials other than pine lumber in box construction, demand developed for pine poles and pine lumber in building construction. During the past decade, competition for yellow pine has been acute because demand for pine for such new products as plywood and pulpwood has augmented the traditional market for pine lumber.

Over half of Maryland's hardwood lumber production has been from oaks. Fifty years ago, large quantities of oak lumber were used for wooden tanks and silos, in auto and other vehicle construction, and in furniture and shipbuilding. Over the years, product requirements have changed. Other materials have replaced wood in the construction of vehicles, ships, and silos. Other hardwood species have been found equally acceptable for such products as furniture and railroad ties. In addition, the automation of the transportation industry has produced a growing new market for Maryland hardwoods in wooden pallets.

The number of sawmills operating in Maryland has closely paralleled fluctuations in lumber production. As lumber demand slackened and production dropped, fewer sawmills operated. During the first decade of this century, when a historic peak in production was reached, the number of sawmills operating in Maryland exceeded 700. Again during World War II when demand was high, many small producers began to operate; 704 sawmills were known to have operated in 1941. Between 1952 and 1975, the total number of sawmills in Maryland decreased from 495 to 91.

Even though the total number of sawmills in Maryland has decreased during the past 25 years, the volume of sawlogs processed annually by Maryland sawmills has increased (Table 5). In 1952, the average hardwood sawmill processed about 300,000 board feet of sawlogs and the average softwood sawmill processed about 800,000 board feet. By 1975, the average hardwood sawmill was processing about a million board feet annually and the average softwood sawmill was processing over 3 million board feet.

While sawlog production from Maryland forests decreased 20 percent—from 190 million board feet in 1963 to 153 million board feet in 1975—log receipts at Maryland sawmills decreased 22 percent. The drop in receipts was greatest in the Western Unit (38 percent) and least in the North Central Unit (8 percent).

In 1975, the North Central and Western Units were net exporters of sawlogs, while the Southern and South Eastern Shore Units were net importers. More than half of the sawlog volume harvested in the North Central Unit was shipped to other units of Maryland or other states for manufacture. More than 47 percent of the sawlog volume processed by sawmills in the Southern Unit was harvested in other units of Maryland or other states.

Statewide, Maryland was a net importer of sawlogs in 1975. About 11 million board feet of sawlogs were shipped to neighboring states for manufacture. Pennsylvania and West Virginia

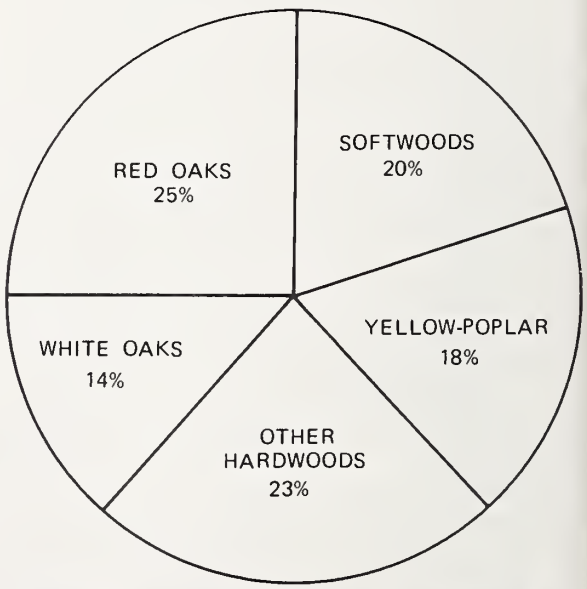


Figure 3.—Maryland sawlog production, by species, in percent, 1975.

were major recipients of Maryland sawlogs, receiving 5.0 million and 4.4 million board feet respectively; 14.7 million board feet of sawlogs were received by Maryland sawmill operators from other states. Delaware was the major out-of-state sawlog source, supplying about 8.0 million board feet in 1975.

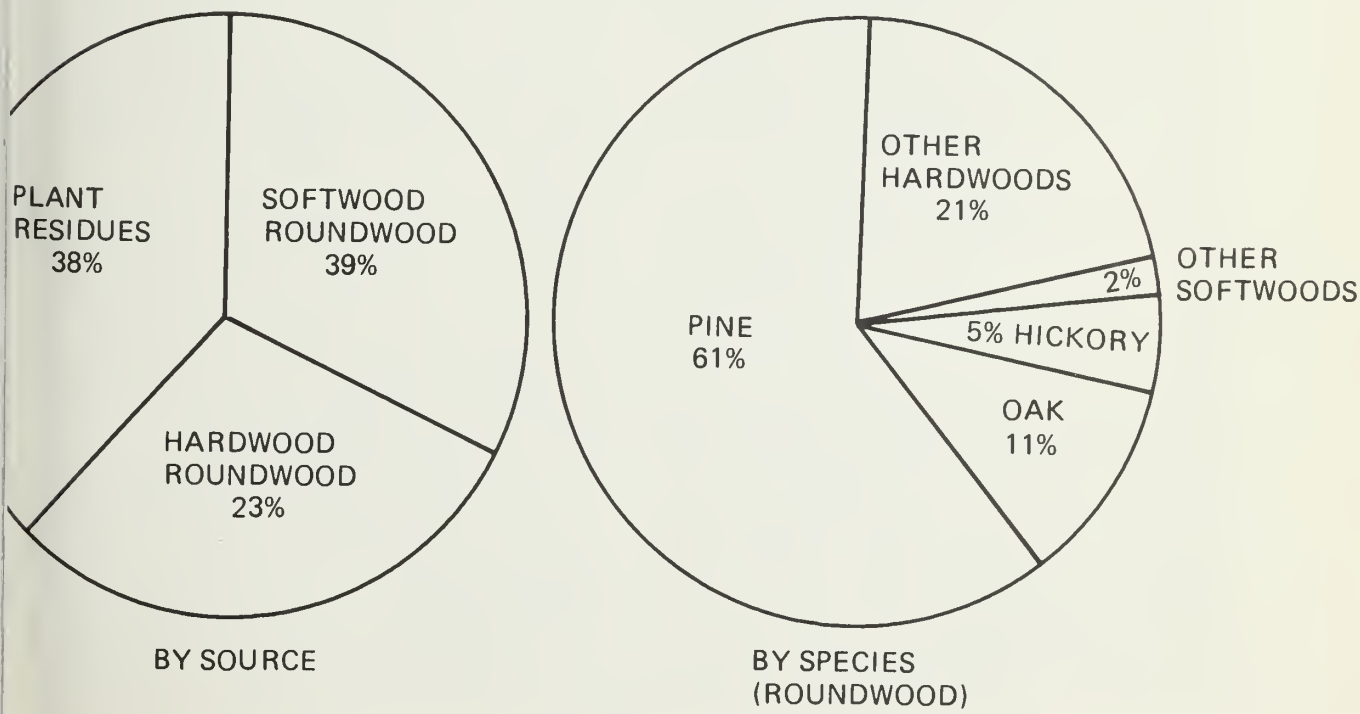
Eighty percent of the total sawlog production in 1975 was from hardwood trees. Red oaks accounted for a quarter of the total volume and white oaks accounted for an additional 14 percent (Fig. 3). Another important hardwood species was yellow-poplar, which accounted for 18 percent of the total production. Large volumes of soft maple and red gum were also produced. Loblolly pine accounted for 86 percent of the softwood production in 1975.

PULPWOOD

Pulpwood has been an important timber product in Maryland since the establishment of the State's first pulpmill at Luke in 1888. By 1914 Besley reported (1916) that more than 92,000 cords were being harvested; about two-thirds was Virginia (scrub) pine and one-third was yellow-poplar and red gum. Most of this pulpwood was harvested in the Southern Region and shipped to Virginia pulpmills. By the late 1940's the pulpwood harvest in Maryland had risen to over 100,000 cords annually and a floor-covering plant had begun to operate in Finksburg.

More than 165,000 cords of pulpwood was harvested from Maryland forests in 1975, and in addition, more than 100,000 cord equivalents of pulp chips were recovered from the primary wood-using plants of the State. This was a 23 percent decrease in round-timber production and a 31 percent decrease in chipped-residue production from the historic high levels that were reached in 1969. The pulpwood harvest from hardwoods has been decreasing for the past decade; from about 90,000 cords in 1965 to 61,000 cords in 1975. During the same period, the harvest from softwoods climbed from 65,000 cords in 1965 to about 132,000 cords in 1969, and then declined to 104,000 cords in 1975. Production of pulp chips from hardwood residues has climbed steadily during the past decade from less than 12,000 cord equivalents in 1965 to more than 45,000 cord equivalents in 1975. Pulp chip production from softwood residues followed the same pattern as the

Figure 4.—Maryland pulpwood production, in percent, 1975.



softwood harvest, increasing from less than 39,000 cord equivalents in 1965 to about 98,000 cord equivalents in 1969, and then declining to 56,000 cord equivalents in 1975.

In 1975, 39 percent of the production total came from softwood trees and 23 percent came from hardwoods (Fig. 4). Pulp chips from manufacturing residues accounted for the remaining 38 percent. Most of the softwood harvest was yellow pine and most of the hardwood harvest was oak and hickory.

During the past decade, 1.8 million cords of pulp timber was harvested in Maryland. Nearly three-fourths of the million-cord softwood harvest came from the Southern Eastern Shore Unit. The Western Unit was the most important hardwood pulpwood producing unit, accounting for 89 percent of the 0.8 million cord harvest.

OTHER TIMBER PRODUCTS

Veneer logs

Nearly 21.8 million board feet of veneer logs were harvested in Maryland in 1975. This is a 37 percent increase in volume since 1963, when 15.9 million board feet of veneer logs were harvested. While a rapidly growing yellow pine plywood industry stimulated increased demand for softwood veneer logs during the period, hardwood veneer-log production declined. In 1963, softwoods accounted for 7 percent of the total harvest; in 1975 softwoods accounted for 76 percent.

In 1916, basket makers were the seventh most important wood-using industry in Maryland. The 28 basket companies that were contacted during an industry survey in 1917 (Besley and Dorrance 1919) consumed 6.6 million board feet of logs, most of which was converted into basket veneer. Red gum was the favorite wood for veneer baskets, accounting for 70 percent of the total plant receipts. Eighty-five percent of the red gum was harvested from Maryland forests.

Over the years, as the demand for wooden baskets declined, many basket plants stopped operating. By 1963 only two of the five hardwood veneer plants operating in Maryland were producing baskets. Even so, red gum accounted for 21 percent of the veneer-log harvest in Maryland because the State's two face-veneer plants were importing large volumes of foreign woods.

The following statistics show how the number of plants, and production and receipts have changed in recent years:

Year	*Operating Plants (Number)*	*Production (Million board feet)*[a]	*Receipts*
1963	5	15.9	8.1
1968	4	32.4	29.2
1972	3	26.7	30.1
1975	3	21.8	27.6

[a] International 1/4-inch rule.

In 1975, two face-veneer plants and a plywood plant were operating in Maryland.

Piling

Most people think of piers, wharves, and waterfront structures when pilings are mentioned, but pilings are also used for supporting foundations of heavy structures and bridges. Equally important is the necessity of replacing damaged and rotten pilings that are already in use.

Pilings are in continuing demand along the seashores of the Northeast, and much of this demand is satisfied from Maryland forests. Few logging operators in Maryland specialize in cutting pilings only, because the trees most suitable for pilings are scattered throughout the timber stands. Most operators sort out the pilings at the roadside, or at a concentration point, because pilings are more valuable than sawlogs or pulpwood.

Only 2.9 million lineal feet of piling was produced in Maryland in 1975. This volume represents a 61 percent decrease from the 7.2 million lineal feet produced in 1963. During the past quarter-century piling production in Maryland climbed from 3.1 million lineal feet in 1951 to a high of 12.6 million lineal feet in 1968, and then declined to current levels.

In 1951 the Maryland piling production represented slightly less than half of the production total for the Northeast (Ostrander 1953). Eighty-two percent of the volume was from yellow pine and 16 percent was from oaks. In 1975, 88 percent of the piling was yellow pine.

A report on pilings handled by northeastern wood-preservation plants (Phelps and Gill 1969)

attests to the importance of Maryland as a producer of pilings; more than 56 percent of the piling receipts in 1967 were from Maryland.

Miscellaneous

Over the years many different timber products have been harvested from Maryland forests. In addition to the major products already mentioned, such products as poles, posts, cooperage, mine timbers, and handle bolts were harvested in 1975. In total, about 405,000 cubic feet of timber was harvested for these wood uses.

Three cooperage plants were operating in Maryland in 1975; one producing slack cooperage from pine and two producing tight cooperage from white oak. In addition, white oak cooperage logs harvested in Maryland were shipped to two neighboring states for manufacture.

Besides utility poles, fish-net poles, and barn poles, furnace poles are frequently produced in Maryland. Fish-net poles are used by local commercial fishermen to support pound and gill nets. Demand for these poles varies with weather conditions and the amount of commercial fishing activity. Barn poles are used in pole barn construction and to support curing tobacco. Furnace poles are used by local copper refining plants. When the green poles are inserted into molten copper a chemical reaction takes place that removes oxygen and other impurities from the copper. Approximately 50,000 green hardwood poles were being used annually in Maryland in the 1950's; only 2,500 were harvested for this use in 1975.

Although no handle plants operated in Maryland in 1975, handle logs from Maryland were shipped to other states for manufacture. Ash and oak were the preferred species.

Wherever underground mining is done, locally cut mine timbers are employed for shoring and bracing. The wood requirement relates directly to the quantity of coal produced from underground mines. In 1975 about 15,000 hardwood mine timbers were produced in Maryland, most of them in the Western Unit of the state.

MANUFACTURING RESIDUES

Woodpulp mills, charcoal producers, poultry producers, and other industries that depend upon inexpensive sources of wood are becoming increasingly dependent on primary manufacturing residues as a major source of raw material. Stringent enforcement of air and water pollution laws and efforts by industry to become energy efficient are also making open burning and dumping unacceptable for residue

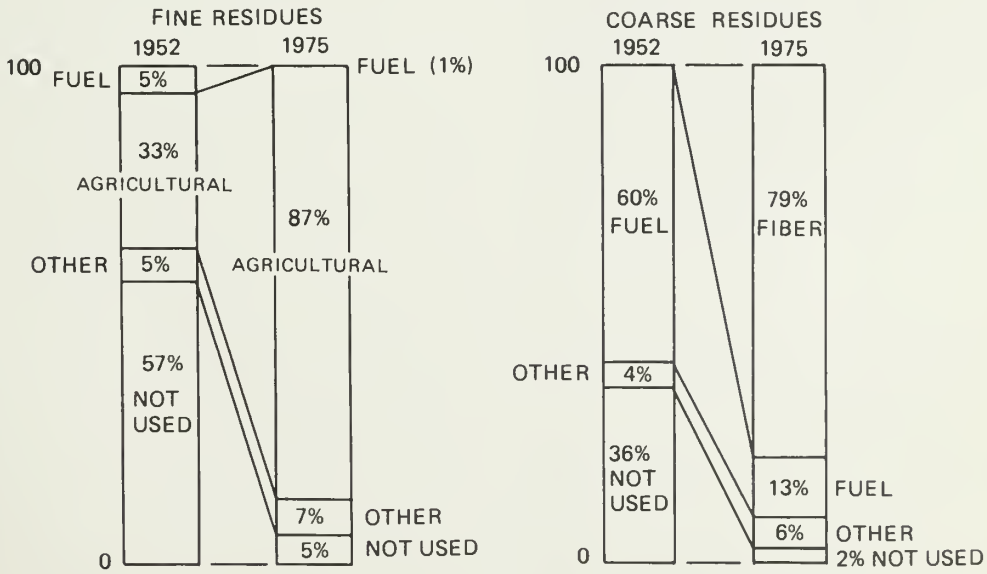


Figure 5.—A comparison of wood residue uses, 1952 and 1975.

disposal and encouraging manufacturers to seek uses for residues.

About 26 million cubic feet of residues were generated by primary wood manufacturers in Maryland in 1975. Fifteen million cubic feet of this total was woody material and 11 million cubic feet was bark. More than 8 million cubic feet of the wood residue material was suitable for conversion into chips for fiber products. Ninety-six percent of all residues—25 million cubic feet—was recovered and used.

When the results of the 1975 study in Maryland were compared to a similar study (Simmons and Bond 1955) made in 1952, some important changes were identified (Fig. 5). In 1952 the major use of fine wood residues was for agricultural purposes. Normally the farmer picked up the sawdust at the plant and used it first for animal bedding; then spread it on his fields and incorporated it as a soil amendment. Other documented uses for fine residues in 1952 were as landfill material and in school jumping pits, as a component in firebrick, as a base for floor sweeping compounds, as a sidewalk de-icer in winter, as insulation in ice-making plants, and as floor covering in slaughterhouses and old fashioned barrooms. In 1975 most of the fine wood residues were being used by Maryland's thriving poultry industry.

Nearly 100,000 cords of coarse residues were used as fuel in Maryland in 1952, either at the producing plant or hauled away for use by others. On Maryland's Eastern Shore, most of the pine slabs were given to the mill workers for fuel. Around the Baltimore and Washington areas, hardwood slabs were in great demand for stove wood. None of the coarse residues were used for fiber products in 1952 because debarking equipment was too expensive for even the high-production mill owners and the pulpmills would not accept unbarked residues. More than a third of the coarse residues were not being used.

In 1975, pulp chips were the major use for coarse wood residues. Pulp chips from Maryland primary manufacturers were shipped to eight pulpmills in four states.

Bark residue use was high in Maryland in 1975. The 11 million cubic feet of bark that was recovered and used was 96 percent of the total available. Most of the pine bark was processed and sold as horticultural mulch; most of the hardwood bark was converted into charcoal.

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Table 1.— *Volume of industrial roundwood in Maryland, by products harvested, 1975*

Product	Standard unit	Volume in standard units			Roundwood volume		
		All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
					Thousand cubic feet		
Sawlogs	M bd ft [a]	152,639	31,268	121,371	23,576	5,251	18,325
Veneer logs	M bd ft [a]	21,790	16,487	5,303	3,t71	2,770	801
Pulpwood	Std. cords	165,187	103,984	61,203	14,041	8,839	5,202
Cooperage logs	M bd ft [a]	1,530	158	1,372	234	27	207
Piling	M linear ft	2,855	2,615	240	1,193	1,049	144
Misc. products [b]	M ft³	171	97	74	171	97	74
Total					42,786	18,033	24,753

[a] International 1/4-inch rule.
[b] Includes poles, posts, and mine timbers.

Table 2.—*Timber products output from roundwood in Maryland, by products, 1952, 1963, and 1975*

Product	All species				Softwoods				Hardwoods			
	1952	1963	1975	Change (63-75)	1952	1963	1975	Change (63-75)	1952	1963	1975	Change (3-75)
	Million cubic feet			*Percent*	*Million cubic feet*			*Percent*	*Million cubic feet*			*Percent*
Sawlogs	37.7	36.9	23.6	36	22.3	13.5	5.3	-61	15.4	23.4	18.3	-22
Veneer logs	1.6	2.5	3.6	+42	[a]	.2	2.8	[b]	1.6	2.3	.8	-65
Pulpwood	7.3	11.0	14.0	+27	6.0	5.8	8.8	+52	1.3	5.2	5.2	[a]
Cooperage logs	.4	1.4	.2	-84	--	.1	a	-57	.4	1.3	.2	-85
Piling	2.0	4.5	1.2	-73	1.6	3.6	1.0	-71	.4	.9	.2	-78
Misc. products [c]	3.7	.8	.2	-76	.4	.1	.1	[a]	3.3	.7	.1	-88
Total	52.7	57.1	42.8	-25	30.3	23.3	18.0	-22	22.4	33.8	24.8	-27

[a] Less than 50,000 cubic feet or 0.5 percent.
[b] 100 percent or more.
[c] Includes poles, posts, mine timber, hewn ties, excelsior bolts, shingle bolts, and chemical wood.

Table 3.—*Industrial timber harvest[a] in Maryland, by geographic units, species groups, and products, 1975*

(In thousands of cubic feet)

Geographic unit and species group	Product			All products
	Sawlogs	Pulpwood	Other products[b]	
North Central:				
Softwoods	505	739	80	1,324
Hardwoods	8,369	391	1,019	9,779
Total	8,874	1,130	1,099	11,103
Western:				
Softwoods	67	527	--	594
Hardwoods	2,749	4,607	63	7,419
Total	2,816	5,134	63	8,013
Southern:				
Softwoods	387	1,607	--	1,994
Hardwoods	5,046	25	--	5,071
Total	5,433	1,632	--	7,065
Southern Eastern Shore:				
Softwoods	4,292	5,966	3,863	14,121
Hardwoods	2,161	179	144	2,484
Total	6,453	6,145	4,007	16,605
All units:				
Softwoods	5,251	8,839	3,943	18,033
Hardwoods	18,325	5,202	1,226	24,753
Total	23,576	14,041	5,169	42,786

[a] Does not include fuelwood or removals that were not manufactured into industrial products.

[b] Other products include cooperage and veneer logs, mine timbers, handle stock, posts, poles, and piling.

Table 4.—*Number of sawmills in Maryland, by geographic units and annual production classes, 1965 and 1975*

Geographic unit	Production class[a]					
	Greater than 1 million board feet		Less than 1 million board feet		Total	
	1965	1975	1965	1975	1965	1975
North Central	31	16	22	32	53	48
Southern	8	10	14	6	22	16
Southern Eastern Shore	10	9	8	2	18	11
Western	8	3	7	13	15	16
All units	57	38	51	53	108	91

[a] Based upon the volume of lumber produced during calendar years 1965 and 1975.

Table 5.—*Number of sawmills and volume processed in Maryland, for selected years by geographic units*

Unit	Number of sawmills			Total volume processed			Volume processed per mill		
	1952	1965	1975	1952	1965	1975	1952	1965	1975
				Million board feet					
North Central	233	53	48	63.5	59.6	55.1	0.3	1.1	1.1
Western	79	22	16	20.9	25.0	15.5	.3	1.1	1.0
Southern	75	18	11	55.8	46.0	35.9	.7	2.5	3.3
Southern Eastern Shore	108	15	16	98.1	69.3	49.7	.9	4.6	3.1
Total	495	108	91	238.3	199.9	156.2	0.5	1.8	1.7

Table 6.—*Sawlog production for Maryland, by geographic units, species groups, and where received, 1975*

(In millions of board feet, *International 1/4-inch rule)*

Species group and geographic unit	Where received			Total production
	Within region	Within state	From other states	
Softwoods:				
North Central	0.5	2.5	[a]	3.0
Western	.4	[a]	[a]	.4
Southern	1.5	.8	--	2.3
Southern Eastern Shore	16.0	9.5	--	25.5
All softwoods	18.4	12.8	[a]	31.2
Hardwoods:				
North Central	23.9	27.6	3.9	55.4
Western	11.7	.6	5.9	18.2
Southern	17.4	14.8	1.2	33.4
Southern Eastern Shore	12.4	1.9	--	14.3
All hardwoods	65.4	44.9	11.0	121.3
All species	83.8	57.7	11.0	152.5

[a] Less than 50,000 board feet.

Table 7.—*Sawlog receipts for Maryland, by geographic unit, species groups, and where produced, 1975*

(In millions of board feet, *International 1/4-inch rule)*

Species group and geographic unit	Where produced			Total receipts
	Within region	Within state	In other states	
Softwoods:				
North Central	0.5	0.4	0.1	1.0
Western	.4	a	a	.4
Southern	1.5	1.2	--	2.7
Southern Eastern Shore	16.0	11.2	4.7	31.9
All softwoods	18.4	12.8	4.8	36.0
Hardwoods:				
North Central	23.9	24.7	5.5	54.1
Western	11.7	.7	2.7	15.1
Southern	17.4	15.4	.4	33.2
Southern Eastern Shore	12.4	4.1	1.3	17.8
All hardwoods	65.4	44.9	9.9	120.2
All species	83.8	57.7	14.7	156.2

[a] Less than 50,000 board feet.

Table 8.—*Sawlog production and receipts in the NORTH CENTRAL UNIT of Maryland, by species and destination of shipments, 1975*

(In millions of board feet, *International 1/4-inch rule)*

Species	Cut and retained in unit	Out-shipments		Total production	In-shipments		Total receipts
		To other units	To other states		From other units	From other states	
Loblolly pine	0.1	1.7	--	1.8	--	0.1	0.2
Virginia pine	.4	.7	a	1.1	0.4	--	.8
White pine	a	a	--	a	--	--	a
Other softwoods	a	.1	--	.1	--	--	a
Total softwoods	0.5	2.5	a	3.0	0.4	0.1	1.0
Ash	0.2	0.4	a	0.6	0.3	0.1	0.6
Black cherry	a	.1	--	.1	a	--	a
Gum	1.1	2.0	0.1	3.2	1.7	.2	3.0
Hard maple	.1	.1	a	.2	.1	--	.2
Soft maple	1.2	1.4	.1	2.7	1.5	.1	2.8
Red oaks	8.3	8.5	1.6	18.4	7.8	1.4	17.5
White oaks	4.4	4.2	.5	9.1	4.2	2.5	11.1
Yellow-poplar	6.4	7.9	1.2	15.5	6.8	.9	14.1
Black walnut	.1	a	a	.1	a	a	.1
Other hardwoods	2.1	3.0	.4	5.5	2.3	.3	4.7
Total hardwoods	23.9	27.6	3.9	55.4	24.7	5.5	54.1
All species	24.4	30.1	3.9	58.4	25.1	5.6	55.1

[a] Less than 50,000 board feet.

Table 9.—*Sawlog production and receipts in the WESTERN UNIT of Maryland, by species and destination of shipments, 1975*

(In millions of board feet, *International 1/4-inch rule)*

Species	Cut and retained in unit	Out-shipments		Total production	In-shipments		Total receipts
		To other units	To other states		From other units	From other states	
Hemlock	0.2	--	--	0.2	--	a	0.2
White pine	.2	a	a	.2	a	a	.2
Other softwoods	--	--	--	--	--	--	--
Total softwoods	0.4	a	a	0.4	a	a	0.4
Ash	0.4	a	0.3	0.7	a	0.1	0.5
Black cherry	.7	0.1	.3	1.1	0.1	.3	1.1
Hard maple	1.1	.1	.2	1.4	.1	.2	1.4
Soft maple	.9	a	.2	1.1	a	.3	1.2
Red oaks	5.2	.3	2.9	8.4	.3	.9	6.4
White oaks	2.6	.1	.7	3.4	.1	.3	3.0
Yellow-poplar	.4	a	.9	1.3	a	.4	.8
Black walnut	a	a	--	a	a	--	a
Other hardwoods	.4	a	.4	.8	.1	.2	.7
Total hardwoods	11.7	0.6	5.9	18.2	0.7	2.7	15.1
All species	12.1	0.6	5.9	18.6	0.7	2.7	15.5

[a] Less than 50,000 board feet.

Table 10.—*Sawlog production and receipts in the SOUTHERN UNIT of Maryland, by species and destination of shipments, 1975*

(In millions of board feet, *International 1/4-inch rule)*

Species	Cut and retained in unit	Out-shipments		Total production	In-shipments		Total receipts
		To other units	To other states		From other units	From other states	
Loblolly pine	0.2	0.1	--	0.3	0.1	--	0.3
Virginia pine	1.3	.6	--	1.9	.9	--	2.2
Other softwoods	--	.1	--	.1	.2	--	.2
Total softwoods	1.5	0.8	--	2.3	1.2	--	2.7
Ash	0.3	0.2	--	0.5	0.3	0.1	0.7
Black cherry	a	--	--	a	a	--	a
Gum	1.5	1.5	0.1	3.1	1.5	--	3.0
Hard maple	.3	.1	--	.4	.1	--	.4
Soft maple	.2	.6	.1	.9	.4	.1	.7
Red oaks	4.3	3.5	.4	8.2	3.5	.1	7.9
White oaks	2.6	2.7	.2	5.5	2.3	a	4.9
Yellow-poplar	5.1	4.3	.2	9.6	5.0	.1	10.2
Black walnut	.1	.1	--	.2	.1	a	.2
Other hardwoods	3.0	1.8	.2	5.0	2.2	--	5.2
Total hardwoods	17.4	14.8	1.2	33.4	15.4	0.4	33.2
All species	18.9	15.6	1.2	35.7	16.6	0.4	35.9

[a] Less than 50,000 board feet.

Table 11.—*Sawlog production and receipts in the SOUTHERN EASTERN SHORE UNIT of Maryland, by species and destination of shipments, 1975*

(In millions of board feet, *International 1/4-inch rule*)

Species	Cut and retained in unit	Out-shipments		Total production	In-shipments		Total receipts
		To other units	To other states		From other units	From other states	
Loblolly pine	15.6	9.2	--	24.8	10.8	4.4	30.8
Virginia pine	.4	.2	--	.6	.3	.3	1.0
Other softwoods	a	.1	--	.1	.1	--	.1
Total softwoods	16.0	9.5	--	25.5	11.2	4.7	31.9
Gum	2.5	0.2	--	2.7	0.5	0.4	3.4
Hard maple	a	.1	--	.1	.1	--	.1
Soft maple	1.2	.1	--	1.3	.3	.1	1.6
Red oaks	3.2	.3	--	3.5	.9	.3	4.4
White oaks	2.8	.3	--	3.1	.8	.1	3.7
Yellow-poplar	1.5	.2	--	1.7	.5	.2	2.2
Other hardwoods	1.2	.7	--	1.9	1.0	.2	2.4
Total hardwoods	12.4	1.9	--	14.3	4.1	1.3	17.8
All species	28.4	11.4	--	39.8	15.3	6.0	49.7

[a] Less than 50,000 board feet.

Table 12.—*Sawlog production for Maryland, by counties and species groups, and where received, 1975*

(In millions of board feet, *International 1/4-inch rule*)

County	Softwoods				Hardwoods				Total production
	Where received			Total softwoods	Where received			Total hardwoods	
	Within county	Within state	In other states		Within county	Within state	In other states		
Allegany	0.1	--	--	0.1	5.6	a	3.3	8.9	9.0
Anne Arundel	.1	0.1	--	.2	2.7	2.4	--	5.1	5.3
Baltimore	--	--	--	--	1.3	3.1	1.2	5.6	5.6
Calvert	.6	a	--	.6	4.4	.7	--	5.1	5.7
Caroline	a	.8	--	.8	.9	.6	--	1.5	2.3
Carroll	--	a	--	a	2.5	.6	.1	3.2	3.2
Cecil	--	--	--	--	.5	3.0	.3	3.8	3.8
Charles	.7	.3	--	1.0	11.6	6.5	--	18.1	19.1
Dorchester	3.8	1.2	--	5.0	8.7	--	--	8.7	13.7
Frederick	a	--	--	a	1.3	.4	.5	2.2	2.2
Garrett	.3	a	a	.3	6.1	.6	2.6	9.3	9.6
Harford	--	-	--	--	3.8	2.4	.9	7.1	7.1
Howard	--	--	--	--	.2	1.6	--	1.8	1.8
Kent	--	.1	--	.1	--	.6	--	.6	.7
Montgomery	a	--	--	a	2.3	.2	--	2.5	2.5
Prince Georges	--	.4	--	.4	.1	5.7	--	5.8	6.2
Queen Annes	.1	.2	--	.3	3.9	4.1	--	8.0	8.3
Somerset	--	3.0	--	3.0	--	.3	--	.3	3.3
St. Marys	.2	.5	--	.7	1.4	7.6	1.2	10.2	10.9
Talbot	.3	.9	--	1.2	3.9	2.6	--	6.5	7.7
Washington	a	--	a	a	.5	.3	.9	1.7	1.7
Wicomico	4.4	1.6	--	6.0	1.4	.2	--	1.6	7.6
Worcester	7.8	3.7	--	11.5	2.3	1.4	--	3.7	15.2
Total	18.4	12.8	a	31.2	65.4	44.9	11.0	121.3	152.5

[a] Less than 50,000 board feet.

Table 13.—*Sawlog receipts for Maryland, by counties and species groups, and where produced, 1975*

(In millions of board feet, *International 1/4-inch rule*)

County	Softwoods				Hardwoods				
	Where produced			Total softwoods	Where produced			Total hardwoods	Total receipts
	Within county	Within state	In other states		Within county	Within state	In other states		
Allegany	0.1	a	a	0.1	5.6	0.7	0.9	7.2	7.3
Anne Arundel	.1	0.1	--	.2	2.7	6.1	--	8.8	9.0
Baltimore	--	--	--	--	1.3	1.4	--	2.7	2.7
Calvert	.6	.6	--	1.2	4.4	6.5	--	10.9	12.1
Caroline	a	--	a	a	.9	1.8	.4	3.1	3.1
Carroll	--	--	--	--	2.5	2.9	2.3	7.7	7.7
Cecil	--	a	--	a	.5	2.4	.5	3.4	3.4
Charles	.7	.6	--	1.3	11.6	7.7	--	19.3	20.6
Dorchester	3.8	1.8	0.1	5.7	8.7	2.3	.6	11.6	17.3
Frederick	a	a	--	a	1.3	1.5	.1	2.9	2.9
Garrett	.3	--	a	.3	6.1	--	1.8	7.9	8.2
Harford	--	--	--	--	3.8	5.2	1.0	10.0	10.0
Howard	D	--	--	D	D	--	--	D	D
Kent	--	--	--	--	--	--	--	--	--
Montgomery	a	--	--	a	2.3	--	--	2.3	2.3
Prince Georges	D	--	--	D	D	--	--	D	D
Queen Annes	.1	.1	.1	.3	3.9	.3	1.2	5.4	5.7
Somerset	D	--	--	D	D	--	--	D	D
St. Marys	.2	--	--	.2	1.4	1.2	.4	3.0	3.2
Talbot	D	D	--	D	D	D	--	D	D
Washington	a	--	--	a	.5	--	--	.5	.5
Wicomico	4.4	8.1	3.7	16.2	1.4	1.4	.3	3.1	19.3
Worcester	7.8	1.3	.9	10.0	2.3	.4	.4	3.1	13.1
Total	18.4	12.8	4.8	36.0	65.4	44.9	9.9	120.2	156.2

[a] Less than 50,000 board feet.

D: Data withheld to avoid disclosure for individual mills.

Table 14.—*Sawlog production and receipts in Maryland, by species and destination of shipments, 1975*

(In millions of board feet, *International 1/4-inch rule*)

Species	Cut and retained in state	Exported to			Total production	Imported from			Total receipts
		Pennsylvania	West Virginia	Other states		Delaware	Pennsylvania	Other states	
Hemlock	0.2	--	--	--	0.2	--	--	a	0.2
Loblolly pine	26.9	--	--	--	26.9	4.4	--	a	31.3
Virginia pine	3.6	--	a	--	3.6	.3	--	0.1	4.0
White pine	.2	--	a	--	.2	--	a	--	.2
Other softwoods	.3	--	--	--	.3	--	--	--	.3
Total softwoods	31.2	--	a	--	31.2	4.7	a	0.1	36.0
Ash	1.5	0.1	0.2	--	1.8	0.1	0.1	0.1	1.8
Black cherry	.9	--	.3	--	1.2	--	a	.2	1.1
Gum	8.9	a	--	0.1	9.0	.5	a	a	9.4
Hard maple	1.8	--	.3	--	2.1	--	.1	.2	2.1
Soft maple	5.6	--	.2	.2	6.0	.2	.2	.3	6.3
Red oak	33.5	3.0	1.4	.6	38.5	1.1	.8	.8	36.2
White oak	19.7	.3	.8	.3	21.1	.6	.8	1.6	22.7
Yellow-poplar	25.8	1.3	.8	.2	28.1	.5	.5	.5	27.3
Other hardwoods	12.6	.3	.4	.2	13.5	.3	.3	.1	13.3
Total hardwoods	110.3	5.0	4.4	1.6	121.3	3.3	2.8	3.8	120.2
All species	141.5	5.0	4.4	1.6	152.5	8.0	2.8	3.9	156.2

[a] Less than 50,000 board feet.

Table 15.—*Pulpwood production in Maryland, by species groups, 1961-1975*[a]

(In thousands of standard cords)

Year	All species	Softwoods	Hardwoods
1961	137.6	88.2	49.4
1962	142.0	91.0	51.0
1963	183.5	108.1	75.4
1964	189.8	98.9	90.9
1965	205.2	104.0	101.2
5-year total	858.1	490.2	367.9
1966	200.0	87.6	112.4
1967	250.9	133.3	117.6
1968	315.9	195.3	120.6
1969	358.6	229.5	129.1
1970	312.8	190.1	122.7
5-year total	1,438.2	835.8	602.4
1971	278.8	158.0	120.8
1972	268.7	152.1	116.6
1973	277.1	155.4	121.7
1974	285.4	155.5	129.9
1975	266.1	159.8	106.3
5-year total	1,376.1	780.8	595.3

[a] Includes production from both roundwood and chips from manufacturing residues.

Table 16.—*Output of pulpwood from roundwood in Maryland, by species groups and geographic units, 1966-75*

(In thousands of standard cords)

Species group and geographic unit	Roundwood pulpwood output in--										All years
	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	
Softwoods:											
North Central	12.6	9.2	11.0	11.3	11.9	13.1	10.6	10.5	12.3	8.7	111.2
Western	6.4	7.9	5.0	6.1	3.1	4.1	5.2	4.1	3.9	6.2	52.0
Southern	3.8	6.0	11.3	11.1	9.7	10.4	10.7	14.1	19.3	18.9	115.3
Southern Eastern Shore	41.3	75.0	102.0	103.1	95.6	51.6	56.5	76.9	68.5	70.2	740.7
All softwoods	64.1	98.1	129.3	131.6	120.3	79.2	83.0	105.6	104.0	104.0	1,019.2
Hardwoods:											
North Central	4.4	6.9	4.5	10.5	12.5	4.7	2.9	4.6	11.7	4.6	67.3
Western	83.6	84.5	82.4	70.7	61.4	70.6	65.6	63.4	59.2	54.2	695.6
Southern	.1	.2	.4	.7	.3	[a]	1.9	1.1	1.0	.3	6.0
Southern Eastern Shore	.9	2.6	.7	.9	1.7	.1	.4	.9	1.6	2.1	11.9
All hardwoods	89.0	94.2	88.0	82.8	75.9	75.4	70.8	70.0	73.5	61.2	780.8
All species	153.1	192.3	217.3	214.4	196.2	154.6	153.8	175.6	177.5	165.2	1,800.0

[a] Less than 50 cords.

Table 17.—*Veneer log and bolt production in Maryland, by species and state or province where consumed, 1975*[a]

(In thousands of board feet, *International 1/4-inch rule*)

Species	State or province where consumed					Total production
	Maryland	North Carolina	Pennsylvania	West Virginia	Ontario	
Red oaks	289	--	405	81	42	817
White oaks	255	--	--	--	46	301
Yellow pine	16,487	--	--	--	--	16,487
Yellow-poplar	157	3,989	--	--	--	4,146
Black walnut	--	--	--	--	39	39
All species	17,188	3,989	405	81	127	21,790

[a] Veneer logs that were handled by brokers for overseas shipment are not included.

Table 18.—*Veneer-log production in Maryland for selected years*[a]

(In thousands of board feet, *international 1/4-inch rule*)

Year	Softwood	Hardwood	All species
1952	12	1,789	1,801
1962	16	8,189	8,205
1963	1,035	14,891	15,926
1968	8,069	24,348	32,417
1972	18,312	8,368	26,680
1975	16,487	5,303	21,790

[a] Veneer logs that were handled by brokers for overseas shipment are not included.

Table 19.—*Production and disposition of manufacturing residues in Maryland, by types of residues, types of uses, and source industries, 1975*

(In thousands of cubic feet)

Source industry	Type of use	Type of residue			All types
		Bark	Coarse [a]	Fine [b]	
Lumber	Fiber	--	5,567	--	5,567
	Fuel [c]	89	891	22	1,002
	Agriculture [d]	3,040	--	4,485	7,525
	Other [e]	283	428	388	1,099
	All uses	3,412	6,886	4,895	15,193
	Unused	447	172	274	893
Veneer	Fiber	--	961	--	961
	Fuel	802	18	827	1,647
	Agriculture	70	120	50	240
	Other	--	--	--	--
	All uses	872	1,099	877	2,848
	Unused	--	--	--	--
Other industries [f]	Fiber	--	208	--	208
	Fuel	--	44	36	80
	Agriculture	1,727	--	161	1,888
	Other	4,547	--	--	4,547
	All uses	6,274	252	197	6,723
	Unused	5	3	4	12
All industries	Fiber [g]	--	6,736	--	6,736
	Fuel	891	953	885	2,729
	Agriculture	4,837	120	4,696	9,653
	Other	4,830	428	388	5,646
	All uses	10,588	8,237	5,969	24,764
	Unused	452	175	278	905

[a] Coarse residues include slabs, edgings, trimmings, veneer cores, and other material suitable for chipping.

[b] Fine residues include sawdust, shavings, and other material considered unsuitable for chipping.

[c] Includes both domestic and industrial fuel.

[d] Includes livestock bedding, chicken litter, and farm and horticulutral mulch.

[e] Includes specialty items and charcoal wood.

[f] Includes bark only from the woodpulp industry and industries such as cooperage and piling.

[g] Pulpmills reported receiving 8.6 million cubic feet of chipped manufacturing residues during 1975.

Table 20.—*Volume of unused sawmill residues in Maryland, by geographic regions, species groups, and types oif residue, 1975*

(In thousands of cubic feet)

Geographic unit	Softwood			Hardwood			All species		
	Bark	Coarse	Fine	Bark	Coarse	Fine	Bark	Coarse	Fine
North Central	12	1	2	329	34	92	341	35	94
Western	2	--	1	30	4	42	32	4	43
Southern	7	10	7	43	82	130	50	92	137
Southern Eastern Shore	10	13	--	14	28	--	24	41	--
All units	31	24	10	416	148	264	447	172	274

Headquarters of the Northeastern Forest Experiment Station are in Upper Darby, Pa. Field laboratories and research units are maintained at:

- Amherst, Massachusetts, in cooperation with the University of Massachusetts.
- Beltsville, Maryland.
- Berea, Kentucky, in cooperation with Berea College.
- Burlington, Vermont, in cooperation with the University of Vermont.
- Delaware, Ohio.
- Durham, New Hampshire, in cooperation with the University of New Hampshire.
- Hamden, Connecticut, in cooperation with Yale University.
- Kingston, Pennsylvania.
- Morgantown, West Virginia, in cooperation with West Virginia University, Morgantown.
- Orono, Maine, in cooperation with the University of Maine, Orono.
- Parsons, West Virginia.
- Pennington, New Jersey.
- Princeton, West Virginia.
- Syracuse, New York, in cooperation with the State University of New York College of Environmental Sciences and Forestry at Syracuse University, Syracuse.
- Warren, Pennsylvania.

Bones, James T., and John E. Brodie.
1977. **The timber industries of Maryland.** Northeast. For. Exp. Stn., Upper Darby, Pa.
20 p., illus. (USDA For. Serv. Resour. Bull. NE-52)

The result of a complete survey of the timber industries of Maryland, this report contains statistics about industrial timber production and receipts, and production and disposition of the manufacturing residues. Comparisons are made with the most recent previous survey, and trends in industrial wood output are noted.

Keywords: timber output, wood residue disposal, Maryland manufacturers, production statistics.

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